

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/923,709	LEARNED ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Shaima Q. Aminzay	2684	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to September 27, 2004.
2. ☒ The allowed claim(s) is/are 1,2,4-11,13 and 14.
3. ☒ The drawings filed on 8/7/01 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.  |

## ***DETAILED ACTION***

### ***Examiner 's Amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert K. Tendler, Reg. No. 24,581 on April 19, 2005.

Claims 15, 16, and 17 were not addressed in the Amendment of September 27, 2004 in response to the Office Action of August 25, 2004. The applicant canceling claims 15, 16 and 17 "without prejudice".

### ***Allowable Subject Matter***

2. Claims 1-2, 4-11, and 13-14 are allowed.

### ***Reasons for Allowance***

3. The following is an examiner's statement of reason for allowance:

Applicant's arguments filed September 27, 2004 have been fully considered, and the Applicant's arguments are persuasive.

The prior art specifically Dent (Dent U. S. Patent Number 5,790,606) in view of Wales (Wales et al. U. S. Patent Number 6,122,269) failed to render obviousness in combination or individually and failed to anticipate individually the following underlined limitations:

"In a digital wireless communications network, a system for reducing the computational complexity of multi-user detection using a Viterbi detection algorithm so as to permit the system to separate multiple signals transmitted at the same frequency and thus permit signal packing, comprising: a receiver for receiving multiple digital signals transmitted on the same frequency, said receiver having a multi-user detector for implementing an exhaustive search strategy for separating the simultaneously arriving signals; a power responsive grouping unit for separating signals received at said receiver into groups, said multi-user detector first processing the group having the highest power, thus to reduce processing complexity by processing only one group at a time; and, a reduced state Viterbi decoder which removes from consideration a predetermined number of intersymbol interference tails, thus to minimize the complexity, whereby signal separation for a number of simultaneously transmitted signals at the same frequency may be accomplished by the megaflop processors available for wireless handsets" as disclosed in claim 11.

“... the signals being separated into groups by received power, with the signals in the highest power group being processed first, thereby to limit computational complexity by doing an exhaustive search only on one group of signals at a time” as disclosed in claim 13.

“... the separation being done in realtime using an optimum asynchronous multi-user detection algorithm whereby multiple simultaneously transmitted signals may be recovered without requiring new waveforms or new frequency slots or time slots.” as disclosed in claim 1.

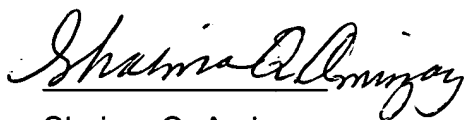
The above limitations or similar language appear in independent claims 4, 5, 9, and 10 are not anticipated or suggested by the prior art.

For these reasons, independent claims 1, 4, 5, 9, 10, 11, and 13 are allowed. Claims 2, and 6-8 depend from independent claim 1 are allowed under the same reasons set forth in claim 1. Claim 14 depend from independent claim 13 is allowed under the same reasons set forth in claim 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### **Conclusion**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 571-272-7874. The examiner can normally be reached on 7:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882, the primary examiner, Nick Corsaro can be reached on 571-272-7876. The fax number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shaima Q. Aminzay

(Examiner)

April 19, 2005



NICK CORSARO  
PRIMARY EXAMINER

Nay Maung

(SPE)

Art Unit 2684